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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,405	11/04/2003	Moshe Rock	22436-067001	5742

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EXAMINER	
STEELE, JENNIFER A	
ART UNIT	PAPER NUMBER
1794	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/700,405	ROCK ET AL.	
	Examiner	Art Unit	
	JENNIFER STEELE	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,17-31,33,35,36,38,62 and 63* is/are pending in the application.

4a) Of the above claim(s) *6,10 and 21-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,11-15,17-20,26-31,33,35-36,38,62-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/12/2008; 6/30/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 9 recites the limitation "said discrete and other areas have contrasting performance characteristic of air permeabilty". There is insufficient antecedent basis for this limitation in the claim. Claim 1 on which claim 9 is dependent is reciting the limitation that "said discrete areas substantially free of the non-continuous coating, wherein the non-continuous coating is without substantial effect on breathability". It is unclear if the coating does not substantially affect breathability then the discrete areas without coating would not be substantially different in properties.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. **Claim 1-5, 7-9, 11-15, 33, 35-36, 62 and 63 rejected under 35 U.S.C. 103(a) as obvious over Gunzel et al. (WO 01/12889) in view of Marg et al (US 2003/0221301).**

Gunzel teaches a treated fabric suitable for applications such as garments, tenting, footwear, bivy bags and other protective coverings or shelters (pg 3, lines 20-26). Gunzel teaches a woven or knitted fabric having a discontinuous randomly disposed polymeric material (pg 3, lines 25-35). Gunzel teaches that the woven or knitted fabric can have a surface that is fleeced or sanded (pg. 5, lines 20-30). Gunzel teaches that the use of the polymer areas provide better local abrasion resistance needed around cuffs, collars, pocket edges and generally any folds or creases (pg 6, lines 20-30). In Figures 1-6, Gunzel teaches the configuration of the discrete areas of coating and teaches that the polymer coating reduces local abrasion and, therefore, would provide a different performance characteristic in regards to pilling. Gunzel teaches by referencing Blauer et al. (US 5,626,949) that predetermined and repeating patterns such as honeycombs, grids, and discrete dots can be used but also teaches that regular patterns are prone to disadvantages (pg. 2, lines 7-18). Gunzel teaches the preferred invention has discontinuous random pattern, however also teaches patterned coatings. Gunzel teaches a test method for hand (page 12, lines 6-14) and provides test results in Table 3 (page 20). Gunzel teaches that the fabric with the coating has an improvement to abrasion resistance independent of fabric type and weight and that it is possible to significantly improve abrasion resistance without adding significant weight or adversely affecting breathability or hand (page 15, lines 14-19) Therefore it would have been

obvious to one of ordinary skill in the art to select a discontinuous polymer coating in patterned or random form as taught by Gunzel and Blauer. Gunzel teaches a coating add on level of 5 to 40 gsm which is equivalent to 0.15-1.2 ounces/sqyd and in the range of applicants invention. Gunzel differs from the current application and does not teach applying the coating by a single head rotary screen having about 30 to about 195 holes per inch.

Marg teaches a method of reducing pilling (Title). Marg teaches the method of reducing pilling is obtained by application of a coating preferably by rotary screen printing and preferably applied only partially to a part of one or both nonwoven surfaces, the coating is preferably performed in the form of grids (patterns) [0044]. Marg teaches the coating is applied in a grid of 100 spots per cm^2 but does not teach the holes per lineal inch. Marg teaches the coating can be an acrylate copolymer. Marg teaches an add on level of 6 to 16 gsm [0058].

It would have been obvious to one of ordinary skill in the art to employ a noncontinous coating to a knit fabric in the form of a pattern applied by a method rotary screen printing motivated to improve the properties of the fabric without reducing breathability and hand.

As to claim 2, Gunzel teaches a shell fabric with properties of waterproofness, windproofness, water vapor permeability but does not teach insulation property. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has

basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § § 2112- 2112.02

As to claim 3, Gunzel teaches that, despite the use of the polymer coating, the fabric maintains good moisture vapor transmission (pg 3, lines 15-20).

As to claim 4 and 5, Gunzel teaches that the fabric can be used in a garment which means any article that can be worn such as footwear, hats, gloves, shirts, coats, trousers (page 4, lines 30 - 35) as required by claims 33 and 35 - 36. It should be noted that "elbow region" and "shoulder region" are not given patentable weight because there is no special relationship or structure provided by those limitations. Furthermore, Gunzel teaches reinforcing such apparel and indicate that it is desirable to use the coating in areas that are subject to abrasion.

As to claims 7, Gunzel teaches that the fabric has improved resistance to abrasion.

As to claim 8 and 11, Gunzel differs and does not teach resistance to pilling. Marg teaches the coating applied by rotary screen printing has improved resistance to pilling as presented in results in Table 1 [0088].

As to claims 9, Gunzel teaches the coating has limited impact on the breathability or air permeability and maintains substantially the breathability and aesthetic appearance of the underlying fabric (page 2, lines 22-28). While Gunzel does not teach there is a substantial difference in breathability, Gunzel teaches that coating can impart differences in breathability and while the invention of Gunzel is intended to reduce the impact a coating has on reduced breathability, Gunzel teaches it is known that a coating

would change the property of breathabilty and therefore it would of been obvious to one of ordinary skill to optimize the coating level to achieve the desired property of breathability or constrasting breathability.

As to claims 12 - 13, although Gunzel does not explicitly teach the claimed bound groupings of yams have a relatively higher tenacity than individual yam fibers and that the bound groupings have tenacity greater than 5 grams per denier, it is reasonable to presume that the claimed properties are inherent. Support for said presumption is found in the use of like materials (i.e. a knitted polyester fabric having a discrete polymer coating comprising Applicant's claimed polymers) which would result in the claimed properties. The burden is upon the Applicant to prove otherwise. In re Fitzgerald 205 USPQ 594. In addition, the presently claimed properties would obviously have been present once the Gunzel product is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to providing of this rejection made above under 35 USC 102.

As to claim 14, Gunzel teaches the yarn of the fabric can be of polyester (page 5, lines 24).

As to claim 15, Gunzel differs and does not teach discrete dots of coating segments. Marg teaches dots of coating that are a size of 0.6 mm [0083]. It would have been obvious to employ the technique of rotary screen printing motivated to produce a coating that can improve abrasion resistance without reducing the hand and breathability of the fabric.

As to claims 33, 35 and 36, these claims are drawn to statements of use and do not distinguish the current application from prior art.

As to claim 62, Gunzel does not explicitly teach that the "coating serves to bind individual yarn fibers together in bound groupings". Marg teaches that pilling occurs from the loose fibers and Marg teaches a physical treatment of nonwoven spilt fibers or microfibers or microfilaments so that the split fibers, microfibers or microfilaments will not form pills or nubs [0004-0006]. It would have been obvious to produce a fabric by a method of rotary screen printing motivated to bind the raised or split fibers motivated to reduce pilling that can result from the raised or split fibers.

As to claim 63, Gunzel, differs from the current application and does not test for the property of pilling. Marg teaches a process of applying a discontinuous coating of dots by a method of rotary screen printing wherein the fabric has a pilling rating of 5. It would have been obvious to one of ordinary skill in the art to employ the technique of applying a coating by a method of rotary screen printing motivated to reduce the pilling of the fabric.

2. **Claim 38 rejected under 35 U.S.C. 103(a) as obvious over Gunzel et al. (WO 01/12889) in view of Marg et al (US 2003/0221301) and Jackson et al. (US 6,238,789).** As to claim 38, Gunzel differs and does not teach a coating add on level in the range of 1.7 ounces/sqyd. Gunzel teaches a coating add on level of 0.15 to 1.2 ounces/sqyd.

Jackson teaches a breathable wallcovering of polyester fiber having a smooth decorative feel, which can be printed with a design or pattern (ABST). The coating is

applied by a preferred method of rotary screen coating. Rotary screen printing is preferred because it provides highly localized flow to localized variations in the fiber orientation. The thickness or unevenness of the surface of the nonwoven ply results in small discontinuities, holes or gaps which on fusion creates holes or pores in the fused polymeric ply. Jackson teaches the coating is applied with a rotary screen with a mesh size of 30-60 which is known in this art to be equal 30-60 holes per inch and in the range of the applicant's invention (col. 5, lines 30-55). The coating is applied at a level of 1.5 to 5.0 ounces per square yard (col. 5, lines 30-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a coating level of 1.7 ounces per square yard motivated to produce a permeable discontinuous coating by a method of rotary screen printing.

3. **Claim 17-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Gunzel (WO 01/12889) and in view of Marg et al (US 2003/0221301) and Rock et al. (US 2001/0046580).**). Gunzel teaches the claimed invention above but fails to teach using a circular reverse plaited knit construction as required by claim 17. Gunzel fails to teach that the stitch yarn is finer that the loop yarn and fails to teach that the loop yarn is at most about 1.5 dpf and the stitch yarn is at least about 1.5 dpf as required by claims 19 and 20.

Rock teaches double-face velour fabric articles having improved insulation performance suitable for apparel applications [0009]. Rock teaches that the knitted fabric has a technical face formed by a micro-denier filament stitch yarn and a technical back formed by a micro-denier filament loop yarn (ABST). Rock teaches that using a

reverse plaiting technique in circular knit fabrics can provide thermal insulation properties [0007] and [0008]. Rock teaches that the loop yarn should be greater in size that the stitch yarn [0021]. Rock teaches that improved performance of the fabric is achieved by increasing the yarn count and filament count to make paths through the fabric more tortuous, thus making it more difficult for air to penetrate quickly through the double-face velour fabric article [0027]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reverse plaited circular knit fabric having a stitch yarn sizes of Rock in a coated fabric of Gunzel, motivated to improve the thermal insulation property of the fabric.

4. **Claim 26-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Gunzel (WO 01/12889) in view of Marg et al (US 2003/0221301) and Rock et al. (US 2001/0046580) and in further view of Grunfeld (US 5,198,288).** Gunzel teaches the claimed invention above but differs from the current application and does not teach an elastomeric material in the form of spandex wound about the yarn at the outer surface. Grunfeld teaches a knit fabric with and elastic combination yarn and improved machine working loss and dimensional stability (ABST). Grunfeld teaches a combination yarn comprising spandex (ABST). Grunfeld teaches various types of elastic combination yarns such as cover, core spun, plied, core-effect, plaited, air-jet-entangled and like yarns (col. 3, lines 7-10). Grunfeld teaches elastic component of yarns made of spandex or other elastomeric fiber (col. 3, lines 5-6). Grunfeld teaches the elastic yarns are suitable for circular knit machines and produce fabrics suited for sweaters, socks, skirts and dresses and the like (col. 3, lines 22-35).

It would have been obvious to one of ordinary skill in the art to use a spandex yarn made of air jet cover process in the knit fabric of Grunzel and Rock, motivated to produce and elastic fabric with good dimensional stability.

5. **Claim 30-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Gunzel (WO 01/12889) in view of Marg et al (US 2003/0221301) and Rock et al. (US 2001/0046580) and in further view of Muramoto et al. (US 5,171,633).** Gunzel teaches the claimed invention but fails to teach that the yarns at the outer surface include cored yarns comprising a core and sheath as required by claim 30 and that the core comprises an elastomeric material as required by claim 31. Muramoto is directed to an elastic filament yarn for use in applications such as socks, panty hose, swimsuits and foundation garment (ABST). The elastic filament yarn has polyester in the sheath component and polyurethane in the core component (ABST). Muramoto teaches that the yarns can be used alone or used as a covering yarn where conventional polyurethane yarns have been used (col. 24, lines 1-15). Muramoto teaches that the yarn exhibits good heat resistance, low stress and is made using the conventional spinning process.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use sheath-core polyurethane yarns of Muramoto in the knitted fabric of Rock and Gunzel motivated to produce a circular knit fabric with good mechanical properties.

Response to Arguments

6. Applicant's arguments, with respect to the rejection(s) of claim(s) 1 under 35 USC 112 2nd have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

7. Applicant's arguments with respect to claim 1-5, 7-9, 11-15, 17-20, 26-31, 33,35,36,38, 62 and 63 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that the references to Gunzel and Blauer do not teach the limitation that the coating is applied by a rotary screen printing method. New grounds of rejection with respect to Gunzel in view of Marg are presented in this office action to show that the technique of applying a coating by rotary screen printing is known in the art and known in the art to improve abrasion resistance and reduce pilling. Further this technique is known to be applied at levels that do not substantially effect the hand and breathability of the fabric.

8. Applicants arguments that rejections with respect to Gunzel in view of Blauer and further in view of Rock, Grunfeld and Maramoto do not remedy the deficiencies of the Grunzel in view of Blauer are moot in view of new grounds of rejection presented in this office action.

9. Applicant's arguments with respect to the 35 USC 103(a) rejection of Gunzel in view of Blauer and Jackson are moot in view of new grounds of rejection. Jackson is relied upon for teaching a method of applying a coating by a rotary screen printing is preferred because it provides highly localized flow to localized variations in the fiber orientation. The thickness or unevenness of the surface of the nonwoven ply results in small discontinuities, holes or gaps which on fusion creates holes or pores in the fused

polymeric ply. Jackson teaches the coating is applied with a rotary screen with a mesh size of 30-60 which is known in this art to be equal 30-60 holes per inch and in the range of the applicant's invention (col. 5, lines 30-55). Wherein Applicant argues that the " the plastisol composition forms into a porous, solid polymeric ply which is fused to the nonwoven substrate", Jackson provides motivation to employ a method of rotary screen printing as stated above. While Jackson teaches a porous, solid ply, the reference to porous as well as Jackson's teaching that the rotary screen printing process is preferred because it deposits highly localized flow that results in holes or pores is teaching why the process of rotary screen printing is desired. It is presumed that the process of Jackson and Marg can be optimized to obtain the desired fabric, as both Jackson and Marg are teaching processes that deposit small dots of coating on a fabric.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 1794

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

7/7/2008